A submission to the
Productivity Commission Inquiry
into the Pig and Pigmeat Industries.

Submitted on behalf of
Ingoldsby Piggery P/L

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1. Sustainability and viability.

Indicative capital costs of pig housing for a typical farrow to finish operation in Australia are given as $3 050 to $3 800 per sow place by Taylor *et al* (1994)[1] and $4 530 by Fearon (1994)[2]. At typical stocking levels and age profiles, breeding and growing stock on hand at any one time were estimated by Fearon as representing a further investment of $890 per sow place.

The enterprise specific nature of these assets represent a significant limitation on their adaptation for any other beneficial use.

The above factors and a production lead time of up to 48 weeks pose major impediments to entry into or exit from pig production.

As a consequence of these factors, Purcell and Harrison (1998)[3] suggest that when subject to unprofitable returns, in the short term normal piggery operations can be expected to continue, but that when such conditions are experienced over the long term, the resultant contraction is slow and expensive (in terms of loss of asset value).

Flood (1990)[4] detailed the limited durability of piggery building materials.

Using conservative estimates of a 7 year lifespan for piggery building materials in direct contact with pigs and a 20 year lifespan for other materials; then by applying these lifespans to the breakdown of capital costs provided by Taylor et al (1994)*loc cit* the resultant estimate of annual expenditure on asset maintenance is $226 per sow place. Some of this expenditure might be considered capital expenditure and some repairs & maintenance tor taxation purposes.

Fearon (1994) *loc cit* suggests that an annual capital expenditure of $1l0 per sow place is necessary to maintain the value of plant and buildings and an additional $88 per sow place per annum was necessary for associated repairs and maintenance. No basis was provided for differentiation of capital and repairs & maintenance expenditure in this instance. However the aggregate total of asset related expenditure is then some $198 per sow place per annum.

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1 Taylor G, Kruger I & Ferrier M, "Capital cost of piggeries," in *Plan it - Build it* (Tamworth: NSW Agriculture, 1994), pp 23 - 24.
2 Fearon P, *Baconers - cost & retums,* vol. Agdex 440/821 (Toowoomba: Qld DPI South Region, 1994), pp 1 - 3.
3 Purcell T & Harrison S, *The impact of trade liberalisation and increasing imports on Australian pig prices,* for Qld DPI, (St Lucia: University of Queensland, 1998), p 112.
4 Flood J, "Building materials for intensive piggeries," in *Pig Production in Australia,* Gardner J, Dunkin A & Lloyd L (Sydney: Butterworths, 1990), pp 130- 133.

Figure 1: Graph of annual capital expenditure /sow /year (adjusted to 1994 values) for Ingoldsby Piggery P/L covering the period 1986/87 to 1997/98 FYTD 31/03/98.

Figure 2: Graph of aggregate annual capital and repairs & maintenance expenditure /sow /year (adjusted to 1994 values) for Ingoldsby Piggery P/L covering the period 1986/87 to 1997/98 FYTD 31/03/98

From Figure 1 it can be seen that relatively high levels of capital expenditure by Ingoldsby Piggery P/L over the period 1991 to 1993 have been followed by a general downward trend over the subsequent period which has resulted in expenditure in the last five years being below the estimated level provided by Fearon (1994)*loc cit* as being necessary to maintain asset values.

The aggregate data for capital and repairs & maintenance expenditure graphed in Figure 2 demonstrates a similar trend with total asset related expenditure being below the datum levels derived from data supplied by Taylor*et al* (1994) and Fearon (1994) *loc cit* It should be noted that these levels of expenditure do not provide for capital expenditure on new technology or improvements such as might be considered necessary to improve productivity.

Observations and anecdotal evidence would suggest that the above trends are not untypical of other piggery enterprises. The APC and PRDC Pigstats database does not detail capital expenditure by surveyed producers. However the mean annual repairs & maintenance expenditure on a per sow basis reported in this database is slightly lower than that of Ingoldsby Piggery P/L (refer Table 1).

Table 1: Repairs and maintenance expenditure per sow per year from Pigstats and lngoldsby Piggery P/L for the period 1991/92 to 1996/97.

While the age of buildings and previous expenditure may influence the level of current expenditure of individual enterprises, considering the number of surveyed producers the above would suggest that the trend in expenditure on asset maintenance by Ingoldsby Piggery P/L may be indicative of a widespread trend in the industry.

Data on industry performance which relies on producer numbers, operating

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5 Cleary G, Meo H & Ransley R,*Pigstats - Austalian/ Pig Industry Handbook* (Canberra: PRDC & APC, 1993/98) PS 5002.

expenses and physical performance is unlikely to display the rundown in asset quality of the nature detailed above. This effect may be quite insidious. Enterprises may continue operating for some time until the deterioration in assets results in either a direct physical constraint on continued operation or in an indirect loss of functionality such that productive efficiency is impaired to an extent that the resultant financial constraints preclude continued operation.

We would therefore suggest that if the above trends are indicative of a general industry trend, that this would indicate that the sustainability and long term viability of Australian pig production is under serious threat.

2. Causes and effects.

Imports of Canadian pigmeat commenced in August 1990[6]. Table 2 shows the real prime price for bacon weight (85 to 90 kg) pigs received by Ingoldsby Piggery P/L since 1987/88 (the first full year of trading by the company) and the associated volume of Canadian imports and domestic production.

Table 2: Real prime price received (1989 = l00) for bacon weight pigs, imports of Canadian pigmeat (kt) and domestic production (7ct) for the financial years 1987/88 to 1997/98.

The above data was analysed using multiple linear regression analysis. The resultant regression coefficients, correlation coefficients (R) and F test values with corresponding significance levels are shown in Table 3.

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6 Cleary G & Ransley R, *Pigstats 94 - Australian Pig Industry Handbook* (Canberra: PRDC & APC, 1995), p 109.

Table 3: Multiple linear regression of data in Table 2 with the real prime price of bacon weight pigs as the dependent variable and Canadian imports, domestic production volumes or their additive effect as the independent variables.

The above analysis suggests that the volume of domestic pigmeat production appears to be strongly correlated with the real prime price of bacon weight pigs. However the precision of the relationship is enhanced when the combined volumes of domestic production and imports are used as the independent variable. The combination of domestic production and import volumes would closely approximate total market supply (exports volumes are small and have not been considered due to the ABS not reporting pigmeat exports on the basis of being sourced from feral or farmed pigs).

The analysis suggests that the variation in total market supply appears to be associated with 69% (= R^2) of the variation in the prime pig price. If there had been no Canadian imports in 1997/98 the resultant decrease in total supply volume could be expected to be associated with a mean increase in the actual prime pigmeat price of 7 cents / kg DW (95% CI of 4 cents to 11 cents / kg DWP = 0.95). This does not take into account the separate influence of the value of imports such as has been identified as being significant by Purcell and Harrison (1998)[7]

However the general linear model ($Y = a + b_1 X_1 + b_2 X_2 + ... + b_n X_n + £$) used above cannot prove causality due to the nature of underlying assumptions,

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7 Purcell T & Harrison S, *The impact of trade libera/isation and increasing imports on Australian pig prices,* for Qld DPI, (St Lucia: University of Queensland, 1998).

particularly those regarding the independence of variables and in this instance the potentially arbitrary nature of selecting the dependent and independent variables. Consequently cause and effect needs to be established by more rigorous and robust methods and we will defer to others in that regard.

While the above might suggest that the volume of imports is not a major contributor to prices received, it should be remembered that given Pigstats 97 reports that the surveyed producers only obtained a margin of $0.16 / kg LW in 1996/97, a year of relatively high returns, then a marginal change in prices received can have a disproportionate effect on net profitability. By way of example Table 4 shows the sensitivity of net returns of Ingoldsby Piggery P/L to variations in the prime price received for pigs when based on costs incurred 1997/98. From this it can be seen that for every 10 cent change in prime price the net returns change by some $35 000 per annum.

Table 4: Sensitivity analysis of net returns per annum for Ingoldsby Piggery P/L due to variation in prime pig price received ($/kg DW) for 1997/98 costs of production and physical performance.

In a press release on 10 June 1998 the DPlE[8] made claims that per capita pigmeat consumption has declined from 20.2 kg in 1994/95 to 18.8 Kg in l 996/97 and then without substantiation attributed this decline to decreased demand due to price competition from other meats.

The stated decline in per capita consumption is not consistent with that quoted by the Australian Pork Corporation (APC) in their annual reports where they suggest per capita consumption declined from l9.4 kg in l994/95 to l8.6 kg in

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8 http:l/www. dpie. gov. au/dpie/pr/media_releases/anderson/pigfacts.html.

1996/97; a decline of half the above magnitude.

Further per capita pigmeat consumption is solely a function of the sum of domestic production and imports less exports divided by the country's population. Due to the long lead times in pigmeat production, supply is relatively inelastic and price competition from other meats is unlikely to impact in the short term on production volumes.

Also if competition from other meats was a causative agent in the current decline this should be reflected in pigmeat retail prices decreasing in response to increased competition. However observation and anecdotal evidence would suggest that there has been little if any movement in retail prices of pigmeat products during the current downturn. This would suggest that the causative agent is a supply price effect (due to cheaper imports) rather than a demand price effect.

ABARE[9] in their submission to the 1995 Industry Commission Inquiry cited own and cross price demand elasticities for meat products sourced (but not referenced) from Harris and Shaw (1990). However their assessment of that data appeared to principally pertain to the influence of beef competition on the demand for fresh pork. Given that over 75% pigs slaughtered are intended for processing rather than the fresh pork market, this data (table 5 in the submission) would appear to suggest that the demand and prices for other meats have limited potential to impact on ham and bacon demand (elasticities 0.02 to 0.10) and hence the major market for pigmeat. Further the imported product is being sold into this ham and bacon market; not the fresh pork market.

Therefore we would suggest there is little evidence to suggest that the downturn in Australian pig prices is related to competition from other meats and that the decrease in per capita consumption merely reflects the decreased domestic production over that period as a result of the 29% of producers who left the industry between 1994 and 1997.

3. **Like or unlike.**

Pigmeat can be defined as the flesh of the pig *(Sus sp)* used as food.

It is the porcine origin of pigmeat that provides any food derived from it with the principal characteristic that intrinsically differentiates it; that is pigmeat cannot be derived from any other species. As a consequence the flesh of pigs intended

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9 ABARE, *The impact of imports on the Australian pig industry,* A submission to the Industry Commission Research Project into the pig & pigmeat industries (1995), p 37.

for human consumption, when imported at any stage of processing, is still pigmeat and must constitute a directly competitive product to that produced Australian pig farmers.

Further pigs only come in full sets. As a consequence even if only certain cuts or primals are imported it is impossible to adjust domestic production to compensate for the resultant changes in supply of those cuts or primals.

4. **Efficiency and competitiveness.**

Pigstats 96[10] provides a mean feed cost for the surveyed Australian producers of some $292.08 / tonne. This equates to $0.955 / kg liveweight sold and constitutes 60% of the total cost of production.

USDA[11] data for a similar time period suggests an indicative feed cost of AUD$185.65 / tonne and AUD$0.807 / kg liveweight sold as being typical for US production. These costs are 36% and 15% respectively less than the mean Australian values. This apparent disparity in the per unit of input and per unit of output values is due to a 30% higher feed conversion efficiency of Australian pig production.

In regard to other major production cost components such as building, labour and finance costs, which together with feed costs constitute 86% of the total cost of production, North American producers enjoy significant advantage in terms of per unit of input, although the magnitude is generally less than that for feed (USDA*1996 loc cit & DiPietre 1997*[12]).

The net effect of these cost differences can be seen by comparing the total costs of production (excluding depreciation) from Pigstats 96 and the USDA data; these being $1.54 and AUD$1 .31 / kg liveweight respectively. This difference should then be considered in relation to the net margin of $0.03 / kg liveweight received by the surveyed Australian pig producers over that period.

Clearly North American pig producers have a significant advantage over Australian producers in terms of cost of production. However this is not due to productive efficiency on the behalf of North American pig producers.

The superior herd feed conversion efficiency of Australian producers has been

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10 Cleary G & Meo H, *Pigstats - Australian Pig Industry Handbook* (Canberra: PRDC & APC, 1997) p57
11 http://usda. mannlib. cornell.edu/1 996/hog_outlook.
12 DiPietre D, Consider operation type to guage profit, International Pigletter 17:7, pp 41 - 42.

previously mentioned.

In 1995 Australian producers marketed 4 960 700 pigs from a breeding herd of some 290 000 sows (Pigstats 95)~3. This represents 17.1 pigs sold / sow / year. For this important parameter of breeding herd efficiency, the respective US and Canadian production represented 13.5 and 13.4 pigs sold / sow / year (University of Missouri 1996[14] & Canada Pork International 1998[15]). This would indicate that reproductive performance of Australian pig herds was some 25% higher than that of North American herds.

Further, despite the average carcase weight in Australia being some 15 kg less than that in North America; a reflection of different market demands; Australian carcase weight production in 1995 equated to 1189 kg / sow / year while in the US and Canada it was 1135 kg and 1134 kg / sow /year respectively. This constituted a 5% higher level of productivity on behalf of Australian producers.

The pigmeat production of 1189 kg / sow / year achieved by Australian pig producers in 1995 also needs to be compared to that of 485 kg / sow / year in 1973[16]. This represents a 245% increase in annual pigmeat production per breeding animal over that 22 year period. The increase has taken place at a relatively stable rate throughout that period (refer Figure 5).

Therefore on the basis of the above we would suggest that Australian pig producers have generally higher levels of productive efficiency than those in North America.

However, due to biological and technical limitations, the scope available for further improvements in productive efficiency is not of a sufficient magnitude such as to provide the order of decrease in production costs per unit of output necessary for Australian pig producers to be cost competitive with producers in North America.

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13 Cleary G & Meo H, *Pigstats95 Australian Pig Industry Handbook* (Canberra: PRDC & APC, 1996)pp 73 -83.
14 http://vvww.nppc.org/PorkFacts/productivity html.
1 5 http:/hvww.cfta.calcpi/cpi3.html.
16 Todd A, *The Australian Pig Industry* (Brisbane: NPF, 1988), p 81.

The differences in major production cost components described above can be principally attributed to differences in policy between the Australian government and those in North America.

In regard to feed costs, a major influence must be the level of direct and indirect support for agriculture, in particular that for grain production, in North America. However, as a senior executive of Goodman Fielder recently suggested (ABC 1998)[7], the retention of single desk powers by AWB Ltd also potentially distorts domestic wheat prices in Australia. The near monopoly in regard to the supply of vegetable feed proteins in Australia is also a factor that needs to be considered.

Higher finance costs in Australia can be attributed to the 2% to 3% lower interest rates that North American farmers appear to be able to access in comparison to those available to most Australian farmers. At around 10% pa the effective or real interest rates (rate of interest - rate of inflation) payable by most Australian farmers are currently at a historic high. This factor is both directly and indirectly, through monetary, fiscal and competition policies, significantly influenced by government decisions.

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17 http:/h~nHw.abc. net au/. rurallnews_states/nm/nm21 jul1998-1 3.htm.
18 DiPietre D, *Consider operation type to gauge profit,* Intemational Pigletter (1997) 17:7, pp 41 - 42.

Similarly labour and building costs in this country have been substantially influenced by the policies of past and the present federal governments.

Consequently it is evident that pig producers have little scope to significantly influence the cost of the above production inputs.

Other factors such as environmental compliance may also influence the comparative costs of production in Australia and North America.

A report in *The Edmonton* Journal (1997)[19] suggests that piggeries (of any size) are exempt from environmental impact assessment requirements in the province of Alberta. Further planning permission procedures appear to be somewhat less comprehensive with lower associated compliance costs than in most Australian states. The situation in other Canadian provinces is not known.

In the USA the environmental compliance procedures and costs appear to vary widely from state to state. It understood that there is currently a moratorium on new piggery developments in North Carolina (Beasley 1997)[20] but new developments are still being actively encouraged in other areas.

Environmental management in North America appears to be largely related to odour control measures with less emphasis on waste management than that currently required by regulatory authorities in Australia. This factor may add significantly to compliance costs here.

S. Export potential.

We have yet to see any objective evidence of substantial export markets being available for Australian pigmeat at prices or volumes able to be provide significant benefit to the Australian pig industry.

Pigmeat trade is largely a commodity market with very limited scope for product differentiation. As a consequence competition in the major export markets will principally be at prices determined by those available on pigmeat from North America. As the Australian industry appears unable to compete against this product on the domestic market the scope for significant levels of profitable trade in export markets must therefore be limited at this point in time.

It is also highly probable that enhanced exports under current industry cost

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19 Danylchuk J, "When these little piggies go to market,*The Edmonton Joumal, 22/11* /97, sec. Insight, H2. 20 Beasiey, D. personal communication 19/09/97

structures, which are unlikely to favour significant expansion in production, are highly likely to result in increased imports so as to satisfy domestic demand. The result may well be increased downward pressure on domestic pigmeat prices.

6. **Conclusions.**

The Australian pig industry is currently being expected to produce pigs at prices comparable to those in North American. However it is being asked to do so with an uncompetitive Australian input cost structure. These costs largely reflect issues beyond the direct control of pig producers; principally being related to differences in policies of governments in Australia and North America.

As a consequence of this situation pigmeat imports are having a significant impact on the price Australian pig producers are receiving for their pigs. This is seriously impacting on their profitability as well as their ability to maintain their asset base a level conducive to efficient pig production.

This situation is unsustainable.